ASNE Combat Systems Symposium

New Technologies and Capabilities





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Fundamental Principals

- Capability
 - The ability to perform actions or missions
- Capacity
 - The actual or potential ability to successfully perform a capability
- Technological Investments
 - Focus on technology to simultaneously increase both <u>capability</u> and <u>capacity</u>
- Key technologies bring forth capabilities
- Capabilities as capacity enhancers



Investments in the right technologies will increase both capability and capacity despite shrinking budgets

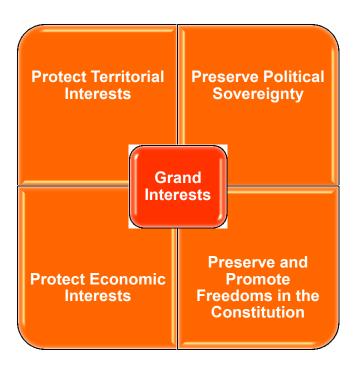


Defending Grand Interests in A New World Order







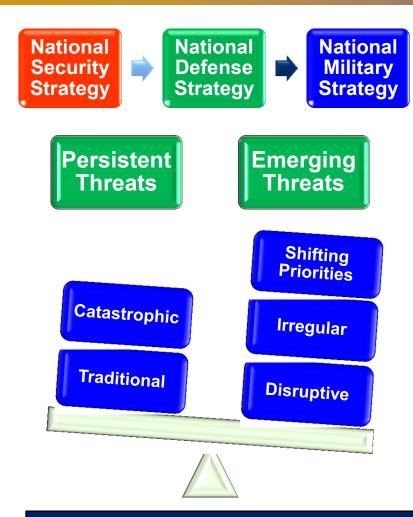


- New Dynamic World
 - Globalized economy
 - Effortless communication
 - Increased media influences
- New Challenges
 - Rising Peer Competitors
 - Non-State threats
 - Increased technological proliferation

Our grand interests are timeless and our Navy must be properly tooled to defend against the new challenges



Ten Years of Shifting Priorities



Current environment

- Increased cost to develop capability
- Increased cost to maintain capability
- Increasing numbers of threats
- Hyper budget constrained

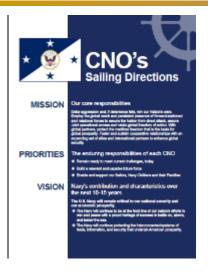
Results

- Difficult to maintain the strategic, operational and tactical edge
- The cost curve is skewed!
- Currently unable to address all threats

We must prioritize our investments to defeat both persistent and emerging threats while flattening the cost curve



CNO's Sailing Directions



- Warfighting First
- Operate Forward
- Be Ready

"We will deliver credible capability for deterrence, sea control, and power projection to deter or contain conflict and fight and win wars."

"Build a relevant and capable future force"

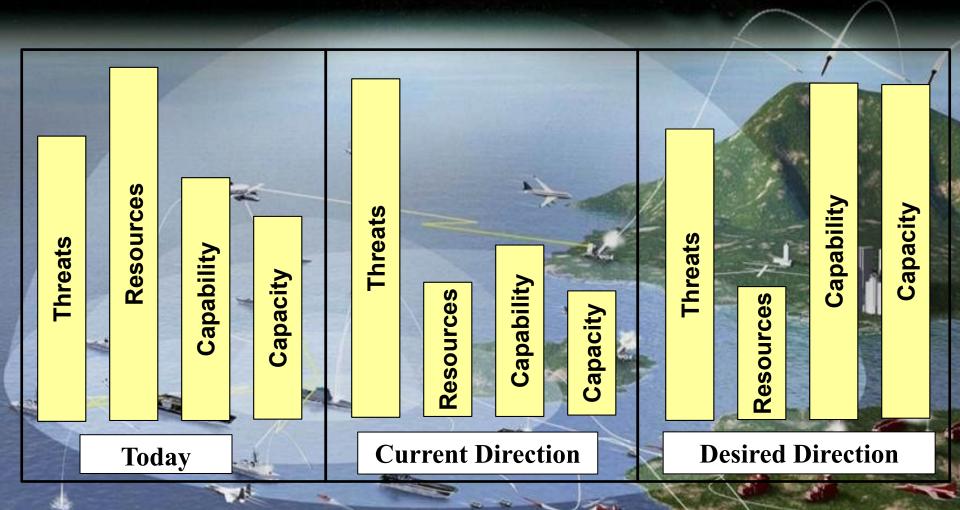
"We will address economic change by being effective and efficient. We will innovate to use *new technologies* and operating concepts to sharpen our warfighting advantage *against evolving threats...*"

"The reach and effectiveness of ships and aircraft will be greatly expanded through new and updated weapons, unmanned systems, sensors, and increased power."

"Be ready to fight and win today, while building the ability to win tomorrow."



A GAP between Capability and Capacity



Our goal must be to minimize our resources while maximizing effects!



Identifying Capabilities Which Will Increase Capacity

Counter Access Denial The Asymmetric Time to engage Challenge PK₀ distance (precision & low collateral damage) **Extend Operational Endurance Operate in Contested Battlespace Enabling Persistent C2 Changing the Economic Curve**

Maximize the mission attributes that technological investments cut across



Introductions











Captain Jon Hill

- •IWS 1.0 MPM
- •PD 452 MPM
- CNO SSG
- DASN IWS
- •ED SCHOOL XO
- •PHD Air Department
- •PEO TSC
- NSWCDD

Captain Mike Smith

- NSWCDD CO
- **•DDG 1000**
- •OPNAV N86
- NATOSea Sparrow
- •TD PEO Ships
- •AEGIS Test Officer
- •PEP Canada

Captain Mike Ziv

- PMS-405 MPM
- •SEA 05P
- •N43
- INSURV
- •SUPSHIP

Captain D.J. Legoff

- •MPM PMW 160
- •DPM PMW 150
- •SPAWAR 05
- •OPNAV N6
- •APM CVN-21

Dr. Phillip Sprangle

- Chief Scientist for Directed Energy NRL
- Professor UMCP
- •Fred E. Saalfeld Award (2012)
- •Navy Meritorious Civilian Service Award (2011)
- •15 Patents
- •2 Pending Patents



VADM (Ret) Pete Nanos



- Managing Executive of the New Force Projection Department at JHPL
- Defense Threat Reduction Agency (DTRA)
 - Founded the billion dollar Research and Development Enterprise
 - Associate Director for Operations
- Former Director, Los Alamos National Laboratory, New Mexico
- Former COMNAVSEA
- Former Technical Director, Strategic System Programs
- Pioneered the application of systems engineering at the battle group level rather than just at the individual ship level
- 1967 USNA Graduate and Trident Scholar
- ◆ 1974 PhD in physics from Princeton University





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